

PROJECT DESCRIPTION  
THIS PROJECT INVOLVES THE UPGRADE OF THE EXISTING I.C.B. TO A TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 272 AND TIGER DRIVE IN CECIL COUNTY. MD 272 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

CONTROLLER OPERATION

THE INTERSECTION WILL OPERATE IN A FLASHING MODE UNTIL THE QUEING LOOPS ARE ACTIVATED. UPON ACTIVATION THE SIGNAL WILL OPERATE IN A THREE-PHASE TRAFFIC ACTUATED MODE. WHEN THE QUEING LOOPS ARE CLEARED AFTER A PRE-DETERMINED PERIOD OF TIME THE SIGNAL WILL RETURN TO FLASHING OPERATION.

A FULL-TRAFFIC-ACTUATED, EIGHT PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND ALL NECESSARY EQUIPMENT WILL BE INSTALLED IN THE EXISTING NEMA SIZE "6" BASE MOUNTED CABINET.

PHASE CHART

	1	2	3	4	5	6	7
PHASE 2	FL/R	FL/R	FL/R	G	G	R	R
2 CHANGE	FL/R	FL/R	FL/R	Y	Y	R	R
PHASE 3	<G	<G	G	R	R	R	R
3 CHANGE	<Y	<Y	Y	R	R	R	R
PHASE 4	<R	<R	R	R	R	G	G
4 CHANGE	<R	<R	R	R	R	Y	Y
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R

EQUIPMENT LIST "A"

A. APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	DESCRIPTION
87 SF	SHEET ALUMINUM SIGNS TO CONSIST OF THE FOLLOWING:
1 EA	W3-3 SIGN (48" X 48") WITH "NEW" PANEL (30" X 30") GROUND MOUNT
1 EA	R10-12(4) SIGN (36" X 42") MAST ARM MOUNT WITH ANGLED MOUNTING BRACKET
1 EA	R10-12(4) SIGN (36" X 42") POLE MOUNT
1 EA	SHIELD ASSEMBLY ROUTE MARKER - M3-3 (24" X 12"), M1-6 (30" X 24"), M5-1 (21" X 15") GROUND MOUNT
1 EA	SHIELD ASSEMBLY ROUTE MARKER - M3-1 (24" X 12"), M1-6 (30" X 24"), M6-2 (21" X 15") GROUND MOUNT
1 EA	D3-2 DUAL FACE SIGN (VAR. X 16") "TIGER DR" MAST ARM MOUNT
1 EA	EIGHT PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH ALL NECESSARY EQUIPMENT
2 EA	FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER

CONTACT PERSONS FOR DISTRICT 2 ARE AS FOLLOWS:

MR. ROBERT KIEL  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
(410) 778-3061

MR. TERRY WRIGHT  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
(410) 778-3061

MR. BARRY CLOTHIER  
ASSISTANT DISTRICT ENGINEER - UTILITIES  
(410) 778-3061

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS  
(410) 787-7630

MR. EUGENE BAILEY  
TEAM LEADER SIGN OPERATIONS  
(410) 787-7676

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF,  
TRAFFIC OPERATIONS  
(410) 787-7631

MS. DARLENE EIDE  
SUPPLY OFFICE  
SIGNAL SHOP WAREHOUSE  
(410) 787-7668

MR. ED RODENHIZER  
TEAM LEADER SIGNAL OPERATIONS  
(410) 787-7652

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR  
ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO OOTS FOR APPROVAL PRIOR TO INSTALLATION.

CATAGORY CODE NO.	QUANTITY	DESCRIPTION
203030	2 EA	TEST PIT EXCAVATION
585624	35 LF	FURNISH AND INSTALL 24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
860274	6 EA	FURNISH AND INSTALL 12 INCH OPTICALLY PROGRAMMED SIGNAL HEAD SECTION
860272	15 EA	FURNISH AND INSTALL 12 INCH VEHICULAR SIGNAL HEAD SECTION
866103	1 EA	FURNISH AND INSTALL 15 FOOT LIGHTING ARM FOR SIGNAL STRUCTURE
806002	1 EA	FURNISH AND INSTALL 250 WATT H.P.S. LAMP AND LUMINAIRE
818030	1 EA	FURNISH AND INSTALL STEEL POLE WITH 38 FOOT MAST ARM AND POLE
810555	1 EA	FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 1000 FOOT LEAD-IN
868201	1 EA	FURNISH AND INSTALL 15 FOOT BREAKAWAY PEDESTAL POLE
870163	25 LF	FURNISH AND INSTALL 3 INCH DIAMETER PVC ELECTRICAL CONDUIT, SCHEDULE 80, TRENCHED
801004	4 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
801106	175 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 6 INCH
802501	230 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805160	40 LF	FURNISH AND INSTALL 1" LIQUID TIGHT, FLEXIBLE, NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
811001	6 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
800000	43 SF	INSTALL GROUND MOUNTED SIGN
800000	44 SF	INSTALL OVERHEAD SIGN
837001	2 EA	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FOOT LENGTH
861104	350 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	80 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	580 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	145 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
862101	1640 LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
862102	500 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL LOOP DETECTOR
870160	700 LF	FURNISH AND INSTALL 2 INCH DIAMETER PVC ELECTRICAL CONDUIT, SCHEDULE 80, TRENCHED
870167	75 LF	FURNISH AND INSTALL 4 INCH DIAMETER PVC ELECTRICAL CONDUIT, SCHEDULE 80, PUSHED AND BORED
800000	LS	REMOVE AND DISPOSE EXISTING EQUIPMENT

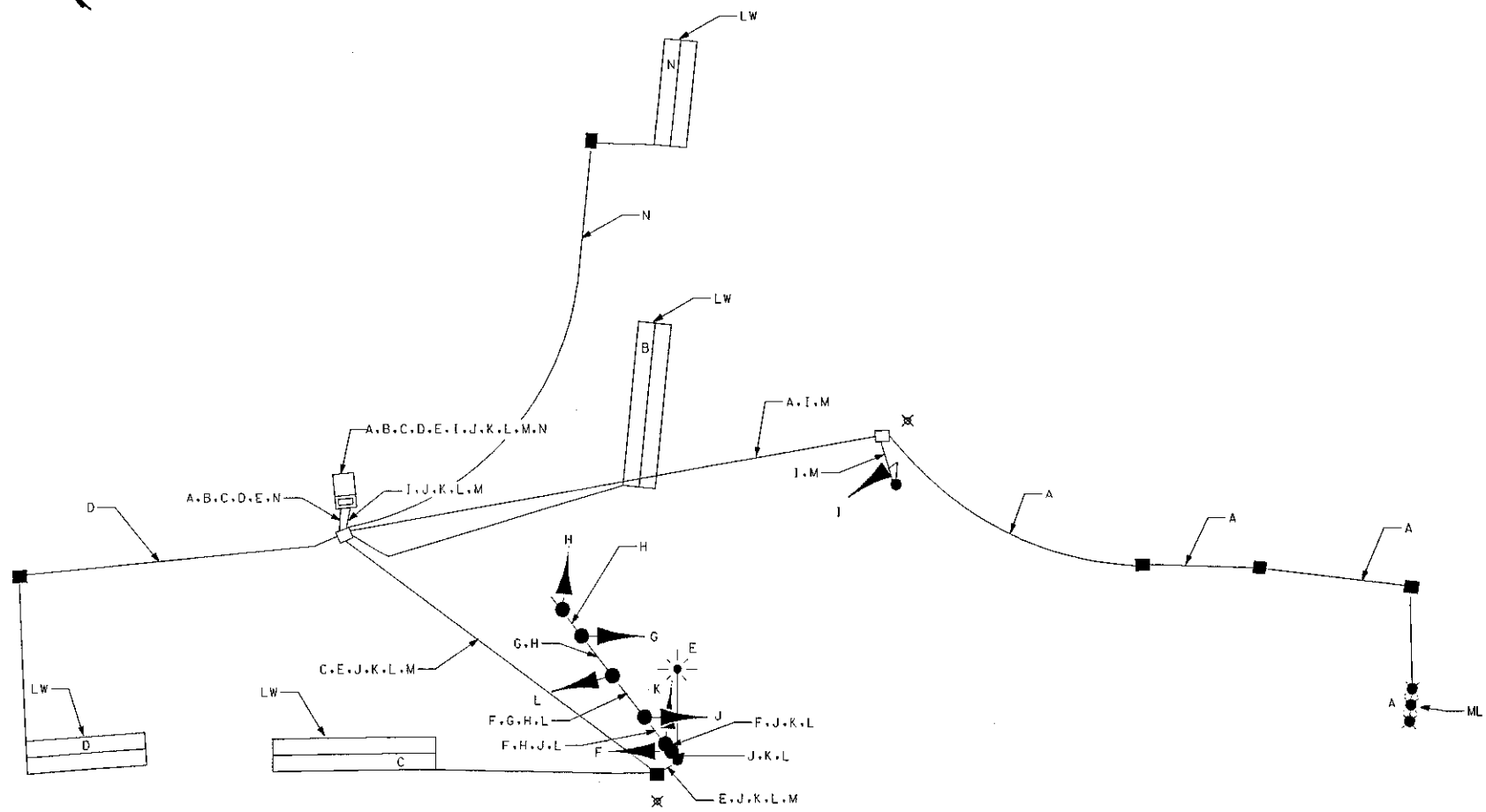
EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR

WIRING DIAGRAM



WIRING KEY

A	MICRO-LOOP PROBE	LW	LOOP WIRE (NO. 14 A.W.G.)
B-D	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED	ML	MICRO-LOOP PROBE
E	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)	X	GROUND ROD
F-H	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)		
I-L	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)		
M	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)		
N	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED		

**T**RAFFIC **C**ONCEPTS, INC.

325 Gambrills Road  
Suite E  
Gambrills, MD 21054  
(410) 923-7101



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
GENERAL INFORMATION  
MD 272 AND TIGER DRIVE

DRAWN BY: M.HOWELL	F.A.P. NO.	TS NO.	SHEET NO. OF
CHECKED BY: T.ZAYDEL	S.H.A. NO.	3804A G1	
SCALE: NONE	COUNTY: CECIL	T.I.M.S. NO.	
DATE: 7-31-02	LOG MILE: 07027218.38	F 302	